INTERNATIONAL MARITIME ORGANIZATION

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MARINE ENVIRONMENT PROTECTION COMMITTEE
43rd session
Agenda item 8

MEPC 43/8/2
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**REPORTS OF SUB-COMMITTEES**

**Outcome of DE 42**

**Note by the Secretariat**

**SUMMARY**

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| ***Executive summary:*** | This note provides information on the outcome of DE 42 which is relevant to the work of the Committee. |
| ***Action to be taken:*** | Paragraphs 2 and 3 |
| ***Related documents:*** | DE 42/15 |


1 The Sub-Committee on Ship Design and Equipment held its forty-second session (DE 42) from 8 to 12 March 1999 and its report was circulated under the symbol of DE 42/15.

**Action requested of the Committee**

2 Under section 15 of DE 42/15, the Committee is invited to:

.1 note the progress made by the DE Sub-Committee regarding the development of Guidelines under Annex VI on prevention of air pollution from ships of MARPOL 73/78 (section 10);

.2 note the work done by the DE Sub-Committee on the safety aspects of ballast water management and, also, that MSC 71 has been invited to review such work and to advice MEPC 43 as appropriate (section 11, paragraph 15.1.14 and annex 10); and

.3 note the progress made by the DE Sub-Committee on the revision of resolutions MEPC.60(33) and A.586(14) with regard to pollution prevention equipment required under MARPOL 73/78 (paragraphs 14.24 and 14.25).

3 With regard to the work on the safety aspects of ballast water management, the proposed changes to the draft Code on Ballast Water Management, prepared by the DE Sub-Committee based on the modifications proposed by SLF 42 (DE 42/15, annex 10), is reproduced at annex to this document.

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**ANNEX**

**PROPOSED CHANGES TO THE DRAFT CODE ON BALLAST WATER MANAGEMENT**

The changes proposed by the DE Sub-Committee to the modifications proposed by SLF 42 (DE 42/11/2, paragraph 9.2) to the Ballast water managements plans (MEPC 42/8, annex 1, appendix 1, part B, section 2) are shown as struck-out text to indicate deletions and shaded to indicate additions.

1 In part A, section 1.A, paragraph 2, the word "guidance" should be replaced by "requirements" and the words "taken into account" in the third line should be deleted. The Sub-Committee agreed that safety measures should be applied as binding requirements. In this context, should part B of the appendix be intended to set out non-binding recommendations, then those safety measures should be included in part A, which is considered to set out binding requirements.

2 In part A, section 1.A, paragraph 4, the following text should be added at the end:

"- The dilution method. Where this method is employed in the deep sea by pumping ballast water into the tank or hold and allowing the water to be discharged into the sea through the sea chest using a control valve or by pumping out using a ballast pump, the pumping should have a duration of at least three times the tank or hold filling time."

3 In part A, section 3.A, paragraph 2, the word "guidance" should be replaced by "requirements" and the words "taken into account" should be replaced by "followed". The safety measures should be included in the binding part.

4 In part A, section 3.A, paragraph 3, the following text should be added between the last and the penultimate indent:

"- The dilution method. Where this method is employed in the deep sea by pumping ballast water into the tank or hold and allowing the water to be discharged into the sea through the sea chest using a control valve or by pumping out using a ballast pump, the pumping should have a duration of at least three times the tank or hold filling time."

5 In part B, section 1.B should be replaced by the following:

"B. Administrations should ensure, in respect of ships entitled to fly the flag of their country which may conduct ballast water exchange at sea:

.1 that they are fitted, if deemed necessary, with a loading instrument to perform calculations of shear forces and bending moments induced by ballast water exchange at sea to facilitate compliance with the permissible strength limits;

.2 that ~~a control system~~ an automated or manual management regime is established on ships for monitoring, ~~and~~ measuring and controlling the amount of water in the ballast tanks;

.3 that the safety margins of stability and strength which are implicit in the ballast water management plan are reasonable and practicable. Particular account should be taken of the following requirements:

.1 stability should at all times be maintained within values required by the stability information booklet, having regard to margins of safety appropriate to the ship and its equipment;

.2 ~~longitudinal stress values should not exceed those permitted by the ship's classification society with regard to prevailing sea conditions~~ permitted seagoing strength limits should not exceed those permitted by the approved loading manual; and

.3 exchange of ballast in tanks or holds where significant structural loads may be generated by sloshing action in the partially filled tank or hold to be carried out in favourable sea and swell conditions, so that the risk of structural damage is minimized."

Since the above provisions set out the fundamental responsibility of the flag State Administration, the SLF and DE Sub-Committees ~~was~~ were of the opinion that these provisions should be included in the binding part of the Code or even in the body of the regulations.

6 In part B, section 2, part A ~~and B~~ should be replaced by the following:

"Section 2 - Ballast Management Plans

A. Ships engaged in ballast water exchange at sea shall have procedures for ballast management operations which account for the following safety considerations, prior to, at the finalization of, and at all practicable intermediate conditions associated with, ballast management operations, as applicable:

.1 avoidance of over and under-pressurization of ballast tanks and holds

.2 free surface effects on stability and sloshing loads in tanks and holds that may be slack at any one time;

.3 admissible weather conditions;

.4 weather routing in areas seasonably affected by cyclones, typhoons, hurricanes, or heavy icing conditions;

.5 maintenance of adequate intact stability in accordance with an approved trim and stability booklet;

.6 permissible seagoing strength limits of shear forces and bending moments in accordance with an approved loading manual;

.7 torsional forces, where relevant;

.8 minimum/maximum forward and aft draughts so as to prevent slamming forward, maintain manoeuvrability and maintain bridge visibility;

.9 wave-induced hull vibration;

.10 documented records of ballasting and/or de-ballasting;

.11 contingency procedures for situations which may affect the ballast water exchange at sea, including deteriorating weather conditions, pump failure, loss of power, etc.;

.12 time to complete the ballast water exchange or an appropriate sequence thereof, taking into account that the ballast water may represent 50% of the total cargo capacity for some ships; ~~and~~

.13 monitoring and controlling the amount of ballast water; and

.14 safety of personnel undertaking duties associated with ballast water management in severe sea or climatic conditions."

~~B. If the flow through method is used, caution should be exercised, since:~~

~~.1 air pipes are not designed for continuous ballast water overflow;~~

~~.2 current research indicates that pumping of at least three full volumes of the tank capacity could be needed to be effective when filling clean water from the bottom and overflowing from the top; and~~

~~.3 certain watertight and weathertight closures (e.g. manholes) which may be opened during ballast exchange, should be re-secured."~~

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